AMENDMENTS TO THE CLAIMS

In the Claims:

1. (Currently Amended) A method of identifying a candidate Checkpoint kinase (CHK) pathway modulating agent, said method comprising the steps of:

   (a) providing an assay system comprising cultured cells that express a p21/CDC42/RAC1-activated kinase (PAK) polypeptide or nucleic acid;

   (b) contacting the assay system with a test agent that modulates the expression and/or activity of a PAK nucleic acid or polypeptide under conditions whereby, but for the presence of the test agent, the system provides a reference activity; and

   (c) detecting a test agent-biased activity of the assay system, wherein a difference between the test agent-biased activity and the reference activity identifies the test agent as a candidate CHK pathway modulating agent.

2. (Canceled)

3. (Currently Amended) The method of ~~Claim 2~~ claim 1, wherein the cultured cells additionally have defective CHK function.

4. (Currently amended) The method of ~~Claim~~ claim 1, wherein the assay system includes a screening assay comprising a PAK polypeptide, and the candidate test agent is a small molecule modulator.

5. (Withdrawn) The method of Claim 4 wherein the assay is a kinase assay.

6. (Currently Amended) The method of ~~Claim~~ claim 1, wherein the assay system is ~~selected from the group consisting of an apoptosis assay system,~~ a cell proliferation assay system~~, an angiogenesis assay system, and a hypoxic induction assay system~~.

7. (Withdrawn) The method of Claim 1 wherein the assay system includes a binding assay comprising a PAK polypeptide and the candidate test agent is an antibody.

8. (Withdrawn) The method of Claim 1 wherein the assay system includes an expression assay comprising a PAK nucleic acid and the candidate test agent is a nucleic acid modulator.

9. (Withdrawn) The method of claim 8 wherein the nucleic acid modulator is an antisense

oligomer.

10. (Withdrawn) The method of Claim 8 wherein the nucleic acid modulator is a PMO.

11. (Withdrawn) The method of Claim 1 additionally comprising:

(d) administering the candidate CHK pathway modulating agent identified in (c) to a model system comprising cells defective in CHK function and, detecting a phenotypic change in the model system that indicates CHK function is restored.

12. (Withdrawn) The method of claim 11 wherein the model system is a mouse model with defective CHK function.

13. (Withdrawn) A method for modulating a CHK pathway of a cell comprising contacting a cell defective in CHK function with a candidate modulator that specifically binds to a PAK polypeptide, whereby CHK function is restored.

14. (Withdrawn) The method of claim 13 wherein the candidate modulator is administered to a vertebrate animal predetermined to have a disease or disorder resulting from a defect in CHK function.

15. (Withdrawn) The method of Claim 13 wherein the candidate modulator is selected from the group consisting of an antibody and a small molecule.

16. (Currently Amended) The method of Claim 1, comprising the additional steps of:
~~(c)~~ (d) providing a ~~secondary~~ second assay system capable of detecting a change in the CHK pathway comprising cultured cells ~~or a non-human animal expressing~~ that express a PAK polypeptide or nucleic acid [[,]] ;

~~(d)~~ (e) contacting the ~~secondary~~ second assay system with the test agent of (b) or an agent derived therefrom ~~under conditions whereby, but for the presence of the test agent or agent derived therefrom, the system provides a reference activity~~; and

~~(e)~~ (f) ~~detecting an agent-biased activity of the second assay system,~~ determining a change in the CHK pathway in the second assay system, wherein a ~~difference between the agent-biased activity and the reference activity of the second assay system confirms the test agent or agent derived therefrom as~~ change in the CHK pathway between the presence and absence of said test agent or agent derived therefrom confirms the test agent or agent derived

therefrom as a candidate CHK modulating agent[[,]] ~~and wherein the second assay detects an agent-biased change in the CHK pathway~~.

17. (Canceled)

18. (Withdrawn) The method of claim 16 wherein the secondary assay system comprises a non-human animal.

19. (Withdrawn) The method of claim 18 wherein the non-human animal mis-expresses a CHK pathway gene.

20. (Withdrawn) A method of modulating CHK pathway in a mammalian cell comprising contacting the cell with an agent that specifically binds a PAK polypeptide or nucleic acid.

21. (Withdrawn) The method of claim 20 wherein the agent is administered to a mammalian animal predetermined to have a pathology associated with the CHK pathway.

22. (Withdrawn) The method of Claim 20 wherein the agent is a small molecule modulator, a nucleic acid modulator, or an antibody.

23. (Withdrawn) A method for diagnosing a disease in a patient comprising:
(a) obtaining a biological sample from the patient;
(b) contacting the sample with a probe for PAK expression;
(c) comparing results from step (b) with a control;
(d) determining whether step (c) indicates a likelihood of disease.

24. (Withdrawn) The method of claim 23 wherein said disease is cancer.

25. (Withdrawn) The method according to Claim 24, wherein said cancer is liver, lung, or pancreas cancer.

26. (New) The method of claim 1, wherein the agent is a small molecule modulator, a nucleic acid modulator, or an antibody.

27. (New) The method of claim 26, wherein the nucleic acid modulator is an antisense oligomer.

28. (New) The method of claim 26, wherein the nucleic acid modulator is a phosphothioate morpholino oligomer (PMO).